

**Annual Report of Accomplishments and Outcomes, July 2012 – June 2013 – *Fundamental***  
Michigan State University/Michigan Department of Community Health (MDCH) /Michigan Department  
of Licensing and Regulatory Affairs,  
Enhanced Program in Occupational Injury and Illness Surveillance  
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The primary activities of the Michigan Fundamental program were:

- Annually collect data for occupational health indicators (OHIs)
- Conduct case based surveillance for work-related amputations, burns, skull fractures, arsenic, cadmium, mercury and carbon monoxide poisoning.
- Maintain and improve surveillance infrastructure and data systems to support surveillance systems.

## **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

### **1. Occupational Health Indicators**

Michigan's OHI data for 2010 were compiled and submitted to CSTE.

The "How to Guides" for OHI's #10, #12 and Employment Demographics were updated.

Tom Largo participated in five OHI Workgroup conference calls.

The report "Thirteen Indicators of the Health of Michigan's Workforce," with OHI data through 2009 was posted on the MDCH website:

[athttp://www.michigan.gov/documents/Michigan\\_Indicator\\_Report\\_revised\\_41206\\_156036\\_7.pdf](http://www.michigan.gov/documents/Michigan_Indicator_Report_revised_41206_156036_7.pdf).

### **2. Surveillance for work-related amputations, burns, metals, skull fractures and carbon monoxide poisoning– number of reports received/confirmed July 2011-June 2012:**

There were 1,306 amputation reports received, of which 459 were confirmed as work-related.

There were 3,839 burn reports received, of which 1,307 were confirmed work-related.

There were 4,211 arsenic, 4,283 mercury and 2,943 cadmium metals reports received, of which 59 were above the surveillance action levels in 45 individuals.

There were 669 carbon monoxide reports received, of which 120 were confirmed as work-related.

The carbon monoxide surveillance system was evaluated using the CDC public health surveillance system evaluation system by an epidemiology fellow from the Council of State and Territorial Epidemiologists (CSTE). A report was written and the results were presented in a poster at an April 2013 Michigan epidemiology conference and the annual CSTE meeting in June 2013.

A new condition was put under surveillance this year: skull fractures. There were 2,734 skull fracture reports received, of which 224 were confirmed work-related.

## Investigations

Amputation investigations were completed at 11 facilities. The median number of violations was 1 and the median assessed fines were \$2,400. Burn investigations were completed at 35 facilities. Twenty facilities received 55 citations with \$ 422,880 in penalties. Skull fracture investigations were completed at six facilities. Four facilities received 32 citations with \$13,300 in penalties.

## 3. Surveillance infrastructure

We continued to maintain the web-based occupational disease (OD) reporting system, a toll free number for phone reporting and an automated occupational disease reporting system which has been developed for the electronic medical record.

We continued to promote and remind health care providers of the reporting requirement through our quarterly newsletter, "Project SENSOR News," which has a mailing list of approximately 3,000 of which approximately 75% are physicians.

All new physicians in the state continued to receive a letter about the occupational disease reporting law and a copy of the reporting form as part of the packet they received when they applied for a Michigan License at the Bureau of Health Professions.

We continued to receive occupationally-related data from the Michigan Poison Control Center (PCC) "National Poison Data System"; approximately 2 reports were received daily.

We continued to be active in multi-state collaborations to promote occupational health surveillance. Dr. Rosenman co-chaired the CSTE Occupational Health Surveillance Workgroup. This group met in December in Tampa FL, at the annual CSTE meeting in June 2013, and sponsored a meeting in Washington DC on "counting work-related injuries and illnesses". Martha Stanbury co-chaired a workgroup to develop a set of occupational health "success stories" for the CSTE website, and spearheaded the effort to have non-infectious, nationally notifiable diseases published in the annual MMWR surveillance summaries. Tom Largo continued his active involvement in the state-NIOSH-CSTE Occupational Health Indicators Workgroup.

## 3. Materials Development, Publications, Presentations and Other Outreach

Summary of 2011 Occupational Disease Reports to the Michigan Department of Licensing & Regulatory Affairs January 9, 2013 (available at [www.oem.msu.edu](http://www.oem.msu.edu))

2010 Annual Report on Carbon Monoxide Poisoning in Michigan Nov 6, 2012 ([www.oem.msu.edu](http://www.oem.msu.edu))

NIOSH e-News: Michigan Behavioral Risk Factor Survey on Work-related Skin Disease. Dec 2012  
NIOSH Blog: **Rosenman KD.** [Work-Related Amputations: Who's Counting?](#) March 21, 2013

### Abstracts and posters:

Marchese M, Wahl R, Cameron L, **Rosenman KD.** Evaluation of the Michigan carbon monoxide surveillance system, 2009-2011. Annual CSTE Meeting Pasadena CA, June 11, 2013.

### Publications:

**Largo TW, Rosenman, KD:** Michigan Work-related Amputations, 2008. J Occup Environ Med. 2013; 55: 280-285.

**Rosenman KD, Fussman C.** Prevalence of work-related dermatitis in the working population. (Letter). Am J Ind Med 2012 DOI: 10.1002/ajim.22136

**Rosenman KD, Kica J, Largo T.** Completeness of workers' compensation data in identifying work-related injuries in use of workers' compensation data for occupational safety and health. Proceedings from June 2012 Workshop; NIOSH; Cincinnati, OH; DF Utterback and TM Schnorr, eds.; DHHS (NIOSH) Publication No. 2013-147; May 2013, 89-95.

Davis L, **Rosenman KD**, Shor G, Simms E, Miller K. State health agencies' access to state workers' compensation data: results of an assessment conducted by the council of state and territorial epidemiologists, 2012. Proceedings from June 2012 Workshop; NIOSH; Cincinnati, OH; DF Utterback and TM Schnorr, eds.; DHHS (NIOSH) Publication No. 2013-147; May 2013, 203-208.

Simms E, Tai C, Towle M, **Rosenman KD.** Workers' compensation-related CSTE occupational health indicators. Proceedings from June 2012 Workshop; NIOSH; Cincinnati, OH; DF Utterback and TM Schnorr, eds.; DHHS (NIOSH) Publication No. 2013-147; May 2013, 135-139.

**Stanbury M, Rosenman KD.** Work-related health disparities: A state public health-based approach. Submitted for publication.

#### Presentations:

**Rosenman KD, Kica J, Largo T.** State surveillance for identifying work-related injuries. Annual CSTE Conference. Pasadena, California June 9-13, 2013

#### **Potential Outcomes**

All reports and presentations listed above contained recommendations that if implemented would reduce work related fatalities and morbidity.

#### **Intermediate Outcomes**

Referrals of worksites identified by occupational disease/injury reports to MIOSHA resulted in worksite inspections that identified hazards which, when corrected, will prevent additional work-related disease/injury.

Increased awareness and recognition of work-related diseases and injuries by physicians improved secondary prevention activities including early diagnosis and treatment and occupational disease reporting.

Multi-year efforts to improve surveillance systems in Michigan (e.g., using MIEMIS for occupational surveillance) and nationally (e.g. efforts to capture occupation and industry in electronic health records), while not yet completed, will ultimately result in better surveillance data which will be used to prompt preventive interventions.

## **Annual Report of Accomplishments and Outcomes, July 2012 – June 2013 – *Acute Traumatic Work-Related Deaths***

Michigan State University/Michigan Dept of Community Health/Michigan Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance  
Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu  
Coordinator – Debra A. Chester, (517)432-1008 debra.chester@ht.msu.edu

The primary activities of the Michigan Acute Traumatic Work-Related Death program were:

- Conducting surveillance for acute traumatic work-related deaths,
- Identifying the root cause(s) of the death, and
- Conducting prevention activity through workplace investigations and the development and dissemination of educational material.

### **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

#### **Case Ascertainment**

There were 141 work-related fatality reports received, with 119 confirmed.

#### **Investigations**

There were nine MIFACE site visits performed; five of the nine on-site investigations involved fatalities occurring prior to July 1, 2011.

#### **Materials Development, Publications and Presentations**

1. 2011 Annual Report on Acute Traumatic Work-Related Fatalities in Michigan.  
[www.oem.msu.edu](http://www.oem.msu.edu).
2. A 2-page 2011 summary sheet highlighting key elements of the Acute Traumatic Work-Related Death Surveillance Program in MI: Tracking Acute Work-Related Deaths in MI ([www.oem.msu.edu](http://www.oem.msu.edu).) Also shown as a poster at annual FACE meeting.
3. Worker Memorial Day Activities (April 29, 2013)  
A Worker Memorial Day press release was prepared. MSU Press Release was highlighted in the print and Internet publications and during radio interviews by Dr. Rosenman. Dr. Rosenman was one of the featured speakers at the State Worker Memorial Day Event in Wentworth Park on April 29, Lansing, MI
4. Nineteen Summaries of MIOSHA Investigations were prepared and distributed ([www.oem.msu.edu](http://www.oem.msu.edu)). These Summaries were written for educational purposes and have been used in MIOSHA and company training programs and “tailgate talks” on the worksite.
5. Three Hazard Alerts were developed:
  - a. Falls From Scaffolds Can Be Prevented
  - b. Stop Fatal Falls in Construction
  - c. Temporary Worker Safety – A Shared Responsibility
6. Twelve in-depth investigation reports have been posted to the MSU OEM website [www.oem.msu.edu](http://www.oem.msu.edu).
7. MIFACE materials were distributed at seven conferences:
  - a. MSU Ag Expo, July 17-19, 2012, East Lansing, Michigan.

- b. Michigan Association of Osteopathic Family Physicians Conference, Nov 2-4, 2012, Grand Rapids, MI. There were 202 attendees.
  - c. American College of Physicians Conference, Oct 4-6, 2012, Traverse City, MI. There were 420 attendees.
  - d. MI Occupational & Environmental Medicine Association 2012 Conference, Sept 28-29, 2012, Grand Rapids, MI. There were 128 attendees.
  - e. Michigan Academy of Physician Assistants Conference, Oct 11-14, 2012, Mt. Pleasant, MI. There were 472 attendees.
  - f. 2012 Michigan State Medical Society Annual Conference, Oct 24-25, 2012, Troy, MI. There were 594 attendees.
  - g. 2013 Michigan Safety Conference, Apr 16-17, 2013, Grand Rapids, MI. There were 1843 attendees.
8. Presentations:
- a. Chester, D. *Unintentional Carbon Monoxide Poisoning in Michigan*. Grand Rapids, MI. November 7, 2012
  - b. Worker Memorial Day Presentation, Lansing, MI April 29, 2013.
  - c. Farm Bureau/MIFACE Farm Safety Presentations(13):  
 Nov 9, 2012: Ingham Cty; Jan 15, 2013, Kalamazoo Cty; Jan 17, 2013, Saginaw Cty; Jan 19, 2013: Calhoun Cty; Feb 6, 2013: Berrien Cty; Feb 9, 2013: Iosco Cty; Mar 1, 2013: Eaton Cty; Mar 5, 2013: Wayne Cty; Mar 6, 2013: Tuscola Cty; Mar 7, Monroe Cty; Mar 12, 2013: Isabella Cty; Mar 13: Sanilac Cty; Mar 14: Macomb Cty
  - d. *MIFACE: FACE a Safer Future*. Construction Association of Michigan Breakfast/Safety Ward Meeting, Bloomfield Hills, MI. May 17, 2013.
  - e. *MIFACE 2011 Update-Agriculture*. MI Safety Conf A, Grand Rapids, MI. Apr 16, 2013.
9. James R. Harris, Ph.D., P.E., Nancy T. Romano, CS HM, & **Debra A. Chester**. *A Fatal Incident from the NIOSH FACE Program*. ASSE by Design, Volume 12, Number 3, pp 1-10.
10. Chaumont Menendez C, Castillo D N, **Rosenman KD**, Harrison RJ, Hendricks S. Evaluation of a Nationally Funded State-based Program to Reduce Fatal Occupational Injuries. *Occup Environ Med* 2012; 69: 810-814.
11. **Rosenman, KD**. Lansing Business Monthly, October 2012. *Workplace Safety: It's up to You*. Article highlighted the Methylene Chloride use during Bathtub Refinishing and its use as a commercially available paint stripper at home improvement stores. Additionally, work-related injury and fatality data was summarized.

### Special Projects

- 1. Bathtub Refinisher Outreach. A draft digital story has been developed for educational outreach to bathtub refinishers regarding the hazards when using methylene chloride-based products during the refinishing process. Continuing contact with bathtub refinishers who contact MIFACE regarding information about methylene chloride hazards during the refinishing process.
- 2. Co-chair of Agricultural Safety Section of the 2012 Michigan Safety Conference. Responsibilities included agenda development, speaker procurement and follow-up. Accepted Michigan Safety Conference Board member nomination and confirmed by Michigan Safety Conference Board.

3. Temporary Employee Project: We developed: 1) a safety & health resource sheet, 2) a simplified version of MIOSHA's multiemployer safety & health responsibilities policy including sample contract language on safety and 3) a hazard alert on temp worker safety for dissemination to the 397 temporary staffing agencies in Michigan.

**Potential Outcomes:** All reports and presentations listed above contained recommendations that if implemented would reduce work-related fatalities and morbidity

**Intermediate Outcomes:**

Iowa FACE program utilized a picture contained in a HIFACE Hazard Alert/Report for an Iowa-based alert on Farmers Run Over by Tractors

Outreach to the Michigan Funeral Directors Association to introduce MIFACE and alert them to the revised NIOSH Guideline for Reporting Industry/Occupation on the Death Certificate.

*The Year in US Occupational Health & Safety: Fall 2011-Summer 2012* cited the Mortality and Morbidity Weekly Report article regarding Methylene Chloride in the "New Research on Worker Health and Safety" section. Extensive media response to bathtub refinisher article, over 200 national press uptakes, Feedback from bathtub refinishers in response to the methylene chloride/bathtub refinisher investigation report response postcards indicate a change in both product use to a non-methylene-chloride based product and personal protective equipment use.

Media interview and subsequent article in South Bend Tribune:

[http://articles.southbendtribune.com/2012-12-09/news/35711577\\_1\\_indiana-farm-fatality-summary-farm-work-small-farm](http://articles.southbendtribune.com/2012-12-09/news/35711577_1_indiana-farm-fatality-summary-farm-work-small-farm)

Michigan Safety Conference Review Meeting 6/5/13: Board members of Michigan Safety Conferences stated a number of safety conference attendees, who were not agricultural employers, came to several sessions and recognized that similar hazards (such as emergency response/fire) occurred in their business and could utilize the concepts presented.

MIFACE written materials have been cited in several publications and used by organizations in their educational outreach materials: MIFACE work-related fatality statistics were cited by the MIOSHA Consultation, Education and Training (CET) Division to educate prospective CET grantees about the Michigan industries and occupations with a high fatality rate to be used during their Request for Proposal response; Michigan Farm News: Safe Lives by Reporting Death. Michigan Farm Bureau, April 15, 2013; MIOSHA use of Investigation Reports and Summaries of MIOSHA investigations in the MIOSHA Training Institute materials; MIFACE data and reports requested by presenters at the Michigan Safety Conference and at the Executive Safety Forum at the Michigan Construction Safety day on March 20, 2013.

**End Outcomes:** Since 2001, the number of work-related fatalities has decreased from 174 in 2001 to a projected 135 work-related fatalities in 2012; a reduction of 23%. This decrease may be partially attributable to MIFACE educational prevention outreach efforts.

## **Annual Report of Accomplishments and Outcomes, July 2012 – June 2013 – *Silicosis and Other Work-Related Lung Diseases***

Michigan State University/MI Dept of Community Health/MI Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance

Principal Investigator – Kenneth Rosenman, MD (517)353-1846 rosenman@msu.edu

Coordinator – Mary Jo Reilly, MS (517)353-4979 maryjo.reilly@hc.msu.edu

Primary activities of the MI Silicosis & Other Work-Related Lung Diseases program are:

- Conducting surveillance for silicosis and initiate surveillance for other work-related lung disease, including asbestosis, work-related hypersensitivity pneumonitis, hard metal lung disease, the minor pneumoconioses, and other emerging work-related lung diseases.
- Conducting prevention activity through workplace investigations and the development and dissemination of educational material.

### **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

#### **Case Ascertainment**

There were 179 reports received and confirmed as: 9 Silicosis; 1 Hard Metal Lung Disease; 1 Pneumoconiosis, Unspecified; 19 Asbestosis; 4 Hypersensitivity Pneumonitis; 21 Chemical Pneumonitis; 57 Chemical Irritation; 67 Other Lung Diseases (includes irritative bronchitis, other pneumoconioses, smoke inhalation, silo-related lung disease).

We conducted interviews of any hospitalized asbestosis cases younger than age 50 to determine if there were current exposures to asbestos among these cases where a MIOSHA enforcement inspection could be made. To date, no current exposures have been identified.

We expanded the scope of occupational lung disease ascertainment through broader requests of Michigan hospital discharge data in April 2013. We requested ICD-9 codes: 491, 492, 496 (COPD—chronic bronchitis, emphysema, chronic airway obstruction), in addition to select lung disease codes with WC as the payer, as a result of the Expanding Occupational Lung Disease Surveillance Exercise completed for the annual WRA and Silicosis meeting.

Quarterly requests to hospitals were emailed and faxed to the 134 Michigan hospitals to remind them to report select occupational diseases from hospitalizations in 2012 and 2013, as required by Michigan law.

MIOSHA continued to audit Occupational Health Clinics in Michigan to enforce the MI Occupational Disease Reporting Law; six were audited this past year.

**Investigations:** Four Michigan OSHA enforcement inspections were completed; two for silicosis, one for hard metal lung disease and one for hypersensitivity pneumonitis.

## **Materials Development, Publications, Presentations and Other Outreach**

1. **Program Publications available at [www.oem.msu.edu](http://www.oem.msu.edu):**
  - a. 1st Annual Report on Silicosis & Other Lung Diseases in Michigan. (*in press*).
  - b. 2011 Annual Summary of Occupational Disease Reports to the MI Dept of Licensing and Regulatory Affairs. Jan 9, 2013.
  - c. Tracking Work-Related Lung Diseases in MI. Feb 28, 2013, updated.
  - d. Tracking Work-Related Diseases in MI. Aug 8, 2012, updated.
  - e. Tracking Asbestos-Related Lung Disease in MI. New 2-page data fact sheet. Oct 11, 2012.
  - f. *P.S. News* - distributed to approximately 3,000 health professionals:
    - 1) Winter 2012-2013, "Silicosis and Fracking."
    - 2) Summer 2013, "Silicosis from Synthetic Countertops."
2. **Presentations:**
  - a. Hypersensitivity Pneumonitis. Michigan State Medical Society Annual Scientific Meeting, Troy MI. Oct 26, 2012.
  - b. Occupational & Environmental Lung Disease. Update in Pulmonary Disease. Spectrum Health, Grand Rapids MI. Apr 20, 2013.
3. **Other Outreach:** Work-Related Injury & Illness educational display booth:
  - a. Michigan Association of Osteopathic Family Physicians Conference, Nov 2-4, 2012, Grand Rapids, MI. There were 202 attendees.
  - b. American College of Physicians Conference, Oct 4-6, 2012, Traverse City, MI. There were 420 attendees.
  - c. MI Occupational & Environmental Medicine Association 2012 Conference, Sept 28-29, 2012, Grand Rapids, MI. There were 128 attendees.
  - d. Michigan Academy of Physician Assistants Conference, Oct 11-14, 2012, Mt. Pleasant, MI. There were 472 attendees.
  - e. 2012 Michigan State Medical Society Annual Conference, Oct 24-25, 2012, Troy, MI. There were 594 attendees.
  - f. 2013 Michigan Safety Conference, Apr 16-17, 2013, Grand Rapids, MI. There were 1843 attendees.
4. The Surveillance Center at MSU maintains accounts on Facebook (17 posts July 2012 - June 2013) and Twitter (16 tweets July 2012 - June 2013).
5. **Publications:**
  - a. Rosenman KD. Talc. Patty's Toxicology, 6<sup>th</sup> Edition, eds. Bingham E and Cohrssen B. Hoboken, New Jersey: John Wiley and Sons Inc 2012; Volume 5, Chapter 84: 257-272.

## **Special projects**

1. **Identifying Health and Safety Trainers for Mines in Michigan:** To encourage miners to have their chest radiographs interpreted by a NIOSH certified "B" reader we contacted MSHA office in Lansing responsible for ensuring that all miners in the state receive the required 8-hour annual refresher course. This is the next step of our outreach efforts to miners, since our outreach to mine owners during FY11-12 did not yield any interest in using the free "B" reading we offered. Our plan is to have a sheet passed out during the training that informs the individual miners of the availability of this service.



2. **Multi-State Initiative on the Hazards of Working in the Manufactured Stone Industry:** In response to reports in the medical literature of the risk of silicosis in the synthetic countertop industry, we obtained an extensive list of businesses in MI that are related to the manufactured stone industry, with over 2,000 possible countertop companies. Also because a report in the medical literature identified silicosis cases from this industry receiving lung transplants, we identified the three hospitals in MI that perform lung transplants as another potential source to report occupational lung disease.

#### **Potential Outcomes—**

All reports and presentations listed above contain recommendations that if implemented would reduce silicosis and other work-related lung disease. If the special projects identify individuals with silicosis from mining and from the manufactured stone industry, these individuals would benefit from getting a proper diagnosis and treatment plan.

#### **Intermediate Outcomes—**

- The 4 MIOSHA Enforcement inspections benefitted the employees exposed to silica and other lung disease-causing substances in the following ways: 1) Health and safety violations must be corrected, which leads to an overall safer and healthier work environment. 2) Workers who are involved in MIOSHA inspections are likely to acquire an increased awareness of the hazards of exposure to lung-disease-causing agents, through their communication with MIOSHA inspectors.
- There were over 3,600 attendees at the 6 Conferences where we exhibited the occupational and environmental display booth. Attendees who visited the booth had the opportunity to learn more about silicosis and other work-related lung disease, and take home literature on these topics as well as speak with a staff member from our office.

#### **End Outcomes—**

- The number of cases of silicosis in Michigan has been decreasing since 1991. The Michigan Surveillance program was instituted in 1988 and has spent considerable effort in outreach to companies, physicians and employees in addressing silicosis. Outreach has been through both enforcement investigations as well as through educational media. This outreach, both educational and enforcement, has now been expanded to include other lung diseases in addition to silicosis.

## **Annual Report of Accomplishments and Outcomes, July 2012 – June 2013 – *Pesticides Illnesses and Injuries***

Michigan State University/Michigan Dept of Community Health/Michigan Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance

Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu

Coordinator – Abby Schwartz, MPH (517) 335-9684 schwartza@michigan.gov

The primary activities of the Michigan Pesticides Illness and Injury program were:

- Conducting surveillance for acute pesticide-related illness and injury.
- Conducting prevention activity through referrals for workplace investigations and the development and dissemination of educational materials.

## **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

### **Case Ascertainment**

From July 1, 2012 through June 30, 2013, there were 90 work-related case reports received with 63 cases confirmed. There were 1,952 environmental pesticide reports received with 404 confirmed cases.

### **Investigations**

Two events were reported to the Michigan Department of Agriculture and Rural Development (MDARD). One was not investigated. For the other referral, the investigation found that the company was not licensed and the applicator was not certified.

One case was referred to the Michigan Occupational Safety and Health Administration (MIOSHA). We are awaiting the results of that investigation.

Thirteen priority alerts were sent to NIOSH regarding cases with four or more exposed persons, or where someone was hospitalized, or because there were no violations of the pesticide label but the person became ill anyway.

### **Materials Development, Presentations, and Other Outreach**

1. Staff presented information about the surveillance program to the MDCH Division of Environmental Health.
2. Staff attended the Conference for Michigan's Farm Worker, Service Providers, and Growers in November 2012. About 150 registered attendees were able to see program reports and other material at our display table.
3. Staff attended meetings of the Migrant Health Network at the Michigan Primary Care Association, to discuss pesticides and migrant worker exposures.

4. Letters and other materials were mailed to 35 migrant clinics in May 2013 reminding them to take an occupational/environmental history and to report any known or suspected cases of pesticide poisoning. Information was also sent to Telamon Corporation, and organization that works with migrant and seasonal farmworkers and their families.
5. Two employers were given information and referrals to improve internal safety protocols for handling pesticides.
6. Michigan's pesticides project coordinator continued to chair the SENSOR-Pesticides coding committee and actively participated with other committee members in making revisions to the Standardized Variable Document. Staff incorporated updates into a new version in June 2013 and provided a list of changes for SENSOR-Pesticides surveillance states.
7. The Pesticide Advisory Committee (PAC) for the MDARD also serves as the advisory committee to the pesticide surveillance program; Ms Schwartz is a member of the PAC. It met quarterly. A summary update of the pesticide surveillance system has been provided and presented at each meeting.
8. Staff developed a pool chemical safety fact sheet that is available on our website ([http://www.michigan.gov/documents/mdch/Pool\\_Chemical\\_Safety\\_fact\\_sheet\\_418403\\_7.pdf](http://www.michigan.gov/documents/mdch/Pool_Chemical_Safety_fact_sheet_418403_7.pdf)) and was distributed at the Michigan Environmental Health Association conference and to the 45 local public health departments for use by public pool inspectors. MDCH also issued a press release about pool chemical safety just before Memorial Day, which referenced the fact sheet, to coincide with CDC's national recreational water safety week (<http://www.michigan.gov/mdch/0,4612,7-132-8347-304073--,00.html>).

## **Publications**

Hudson N, Kasner EJ, Beckman J, Mehler L, **Schwartz A**, Higgins S, Bonnar-Prado J, Lackovic M, Mulay P, Mitchell Y, Larios L, Walker R, Waltz J, Moraga-McHaley S, Roisman R, Calvert GM. Characteristics and Magnitude of Acute Pesticide-Related Illness and Injuries Associated with Pyrethrin and Pyrethroid Exposures – 11 States, 2000-2008. Am J Ind Med 9999:1-16, 2013

The ninth annual pesticides surveillance report: Pesticide Illness and Injury Surveillance in Michigan: 2010. Published September 2012. Available at: [http://www.michigan.gov/mdch/0,4612,7-132-54783\\_54784-127397--,00.html](http://www.michigan.gov/mdch/0,4612,7-132-54783_54784-127397--,00.html)

## **Potential Outcomes**

All reports and presentations listed above contained recommendations that if implemented would reduce work related fatalities and morbidity.

### **Intermediate Outcomes**

Exposure stories provided in the annual report are used in training pesticide applicators.

Thirteen priority reports were sent to NIOSH this year. NIOSH refers them to the EPA where they may be considered during pesticide re-registration evaluations.

### **End outcomes**

Changes in EPA labeling requirements based on information from the surveillance system will lead to safer use of pesticide products.

Increased awareness of pesticide hazards and safe handling will lead to reduced injury and illness from pesticide use.

## **Annual Report of Accomplishments and Outcomes, July 2012 – June 2013 – Work-Related Asthma**

Michigan State University/MI Dept of Community Health/MI Dept of Licensing & Regulatory Affairs, Enhanced Program in Occupational Injury & Illness Surveillance

Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu

Coordinator – Mary Jo Reilly, MS (517)353-4979 maryjo.reilly@hc.msu.edu

The primary activities of the Michigan Work-Related Asthma program are:

- Conducting surveillance for work-related asthma.
- Conducting prevention activity through workplace investigations and the development and dissemination of educational material.

### **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

#### **Case Ascertainment**

There were 136 reports received, with 63 confirmed.

Quarterly requests to hospitals were emailed and faxed to 134 Michigan hospitals to remind them to report select occupational diseases from hospitalizations in 2012 and 2013, as required by Michigan law.

MIOSHA continued to audit Occupational Health Clinics in Michigan to enforce the MI Occupational Disease Reporting Law; six were audited this past year.

New reporting source: IgE test results from MI Labs. From July 2012 through June 2013 22 adults were reported for latex allergy testing. Of the 16 adults with positive allergy to latex, we have identified: one new case of work-related asthma; one new case of work-exacerbated asthma; one case of asthma but cannot identify whether it's from work exposures or not; three cases of allergy to latex, but not asthma; and 10 still being investigated. To date, there have been no positive results for IgE antibodies to: amylase, anhydrides, ethylene oxide, formaldehyde or isocyanates.

#### **Investigations**

There were 12 Michigan OSHA inspections completed for WRA, six for isocyanates, two for metal working fluids, one for cement dust, one for chlorine, one for welding and one for coffee bean dust. One hundred eleven co-workers were administered a respiratory health assessment questionnaire during nine of the 12 MIOSHA inspections; 21 co-workers with daily or weekly shortness of breath, chest tightness, wheezing or asthma since beginning to work at the facility were identified.

#### **Materials Development, Publications, Presentations and Other Outreach**

1. **Program Publications available at [www.oem.msu.edu](http://www.oem.msu.edu):**
  - a. 2011 Annual Report Tracking WRA in MI. Feb 28, 2013.
  - b. Tracking WRA in MI. Feb 28, 2013. 2-page data fact sheet updated.
  - c. *P.S. News* - distributed to approximately 3,000 health professionals:

- 1) Fall 2012, "Swimming Pools and Asthma."
- 2) Spring 2013, "Update on Isocyanates."
- 3) Summer 2013, "Psychiatric Disorders & WRA."
- d. Resources for Clinicians- A Report on the MI Workforce with Potential Exposure to Acrylic Acid, Chromium, Diethanolamine, Ethylene Oxide, Maleic Anhydride & Methyl Methacrylate was completed, Apr 12, 2013.
2. **Presentations:**
  - a. WRA: An Overlooked Trigger. Univ of WA, Seattle WA. Oct 4, 2012.
  - b. Occupational & Environmental Lung Disease. Update in Pulmonary Disease. Spectrum, Grand Rapids MI. Apr 20, 2013.
  - c. Dr. Rosenman was interviewed Oct 7, 2012 at the University of IN. The topic of the interview was "Why is workplace-related asthma on the rise?" The interview is available on-line through: <http://soundmedicine.iu.edu>.
3. **Poster:** Lefkowitz D ... Reilly MJ, Filios M, Rosenman KD. Diisocyanates and WRA: Findings from CA, MA, MI, and NJ, 1993–2008. Isocyanates & Health Conference, Bethesda, MD. Apr 3-4, 2013.
4. **Presentation & Poster:** Rosenman KD, Reilly MJ. Are U.S. Companies that Use Isocyanates Providing Medical Surveillance? Isocyanates & Health Conference, Bethesda, MD. Apr 3-4, 2013.
5. **Journal & Book Publications:**
  - a. Cartier A, Boudreau N, Phenix P, Rosenman KD. Assessment of the Worker. Asthma in the Workplace, 4th Edition. Eds. Bernstein DI, Malo JL, Yeung MC, Bernstein L. Informa Healthcare. 2013, 454 pgs.
  - b. Heederik, D, Houba R, Liss, GM, Millerick-May, ML. Protecting the worker and modifying the work environment. Asthma in the Workplace, 4th Edition. Eds. Bernstein DI, Malo JL, Yeung MC, Bernstein L. Informa Healthcare. 2013, 454 pgs.
6. **Other Outreach:** Work-Related Injury & Illness educational display booth:
  - a. Michigan Association of Osteopathic Family Physicians Conference, Nov 2-4, 2012, Grand Rapids, MI. There were 202 attendees.
  - b. American College of Physicians Conference, Oct 4-6, 2012, Traverse City, MI. There were 420 attendees.
  - c. MI Occupational & Environmental Medicine Association 2012 Conference, Sept 28-29, 2012, Grand Rapids, MI. There were 128 attendees.
  - d. Michigan Academy of Physician Assistants Conference, Oct 11-14, 2012, Mt. Pleasant, MI. There were 472 attendees.
  - e. 2012 Michigan State Medical Society Annual Conference, Oct 24-25, 2012, Troy, MI. There were 594 attendees.
  - f. 2013 Michigan Safety Conference, Apr 16-17, 2013, Grand Rapids, MI. There were 1843 attendees.
7. Dr. Rosenman and staff continue to be members of the MI Asthma Advisory Committee (MAAC) & Steering Committee for the Asthma Initiative of Michigan (AIM). Most recent meetings/conference calls: 8-24-2012, 2-25, 4-22, & 6-3-2013.
8. The Surveillance Center at MSU maintains accounts on Facebook (17 posts July 2012 - June 2013) and Twitter (16 tweets July 2012 - June 2013).

## Special projects

1. **Assess Trends in Use of Temporary Employees:** 54 of 397 agencies that place employees in temporary positions in Michigan completed our on-line survey. Survey responses were used to target Temporary Agency needs. We developed: 1) a safety & health resource sheet (68% of temp agencies requested), 2) a simplified version of MIOSHA's multi employer safety & health responsibilities policy (54% of temp agencies requested) including sample contract language on safety (33% said health and safety not addressed in contract) and 3) a hazard alert on temp worker safety.
2. Michigan along with the other WRA states has proposed to add WRA as a new occupational indicator. This indicator will be based on the **BRFSS survey** and was approved by the CSTE occupational subcommittee on June 12, 2013.
3. In response to a letter from Dr. Howard, Dr. Rosenman has participated in the NIOSH **Health Care Services Sector** group to work on guidelines for safe cleaning to minimize the adverse health effects to workers, particularly from disinfectants.
4. **Swimming Pool Exposures:** Michigan is leading a multi-state project looking at chloramine exposures and WRA from swimming pools.
5. **WRA MIOSHA Inspection Follow Up:** 60 companies inspected for WRA from 2008-2012 were mailed a survey in April 2013, to determine whether companies make changes in their respiratory-related program after a WRA MIOSHA inspection, and if any respiratory-related recommendations are followed. To date, 44 responses have been received, 4 companies are out of business and 12 surveys are pending.

## Potential Outcomes—

- All reports and presentations listed above contain recommendations that if implemented would reduce work-related asthma.

## Intermediate Outcomes—

- The 12 MIOSHA Enforcement inspections benefitted the employees exposed to asthma-causing substances: 1) Health and safety violations must be corrected, which led to an overall safer and healthier work environment. 2) Letters to the 21 symptomatic individuals identified through the co-worker interviews directed these individuals to a physician for follow-up for their breathing symptoms.
- There were over 3,600 attendees at the 6 Conferences where we exhibited the occupational and environmental display booth. Attendees who visited the booth had the opportunity to learn more about WRA and other work-related disease, and take home literature on these topics as well as speak with a staff member from our office.

## End Outcomes—

- There has been a decrease in the number of individuals in Michigan with WRA caused by diisocyanates (since 1994), metal-working fluids (since 1992) and low molecular weight agents (since 2000). The Michigan Surveillance program was instituted in 1988 and has spent considerable effort in outreach to companies, physicians and employees in addressing work-related asthma caused by these substances. Outreach has been through both enforcement investigations as well as through educational media.